

WHAT IS CLAIMED IS:

- 1 A monospecific antibody immunologically  
reactive with a voltage-activated cation channel.
2. The antibody of Claim 1, wherein the antibody  
blocks activity of the voltage-activated cation channel.
3. A method of identifying compounds that modulate  
voltage-activated cation channel activity, comprising combining a  
modulator of voltage-activated cation channel activity with a cell  
expressing a recombinant voltage-activated cation channel protein,  
and measuring an effect of the modulator on the channel.
4. The method of claim 3, wherein the effect of the  
modulator on the channel is inhibiting or enhancing binding of  
voltage-activated cation channel ligands.
5. The method of claim 3, wherein the effect of the  
modulator on the channel is inhibition or enhancement of cation flux  
mediated by voltage-activated cation channels.
6. The method of claim 5, wherein the cation flux is  
membrane sodium flux.
7. A compound active in the method of Claim 3,  
wherein said compound is a modulator of a voltage-activated cation  
channel.
8. A compound active in the method of Claim 3,  
wherein said compound is an agonist or antagonist of a voltage-  
activated cation channel.

9. A compound active in the method of Claim 3, wherein said compound is a modulator of expression of a voltage-activated cation channel.

5 10. A pharmaceutical composition comprising a compound active in the method of Claim 3, wherein said compound is a modulator of voltage-activated cation channel activity.

10 11. A method of treating a patient in need of such treatment for a condition which is mediated by a voltage-activated cation channel, comprising administration of a voltage-activated cation channel modulating compound active in the method of Claim 3.

15 12. A method of treating a patient in need of such treatment for a condition which is mediated by a voltage-activated cation channel and is characterized by infection or infestation with an invertebrate organism, comprising administration of a voltage-activated cation channel modulating compound active in the method  
20 of Claim 3.

13. The method of claim 12 wherein said patient is a domestic animal or livestock.

25 14. An agricultural composition comprising a compound active in the method of Claim 3, wherein said compound is a modulator of voltage-activated cation channel activity.

30 15. A method of treating an insect infestation of crops or forestry stock, comprising administration of an agricultural composition of claim 14.

16. The method of claim 15 wherein said insects are arthropods.

17. A DNA molecule characterized by the nucleotide sequence as set forth in SEQ ID NO:7.

5 18. An expression vector containing the DNA molecule of claim 17.

10 19. A recombinant host cell containing the expression vector of claim 18.

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